

II. Claims

Claims 36-46 are pending the present application. Claims 37-46 have been amended as set forth below. This listing and version of claims replaces all prior listings and versions of claims.

1-35 (canceled).

36. (original) A planarized final copper structure, comprising:

a lower, recessed copper structure disposed within a patterned dielectric layer opening; the patterned dielectric layer having an upper surface and the lower, recessed copper structure recessed from about 180 to 500 Å below the upper surface of the patterned dielectric layer; the lower, recessed copper structure having a copper oxide-free upper surface;

and an upper, planarized conductor film disposed upon the copper oxide-free upper surface of the lower, recessed copper structure to isolate the copper oxide-free upper surface from the ambient atmosphere; the upper, planarized conductor film having an upper surface that is substantially flush with the upper surface of the patterned dielectric layer.

37. (currently amended) The ~~method~~ structure of claim 36, wherein a barrier layer is interposed between the patterned dielectric layer opening and: the lower, recessed copper structure; and the upper, planarized conductor film.

38. (currently amended) The ~~method~~ planarized final copper structure of claim 36, wherein a barrier layer is interposed between the patterned dielectric layer opening and: the lower, recessed copper structure; and the upper, planarized conductor film; the barrier layer having a thickness of from about 50 to 1000 Å.

39. (currently amended) The ~~method~~ planarized final copper structure of claim 36, wherein a barrier layer is interposed between the patterned dielectric layer opening and: the

lower, recessed copper structure; and the upper, planarized conductor film; the barrier layer having a thickness of from about 50 to 300 Å.

40. (currently amended) The ~~method~~ planarized final copper structure of claim 36, wherein a barrier layer is interposed between the patterned dielectric layer opening and: the lower, recessed copper structure; and the upper, planarized conductor film; the barrier layer being comprised of a material selected from the group consisting of: TaN; TiN; WN; TaN+Co; Ta, TiSiN and TaSiN; the patterned dielectric layer being comprised of a material selected from the group consisting of: silicon oxide; FSG, a spin-on dielectric material, Black DiamondTM and nanoporous silica; and the planarized conductor film being comprised of a material selected from the group consisting of: TaN; TiN; WN; TaN+Co; Ta, TiSiN and TaSiN.

41. (currently amended) The ~~method~~ planarized final copper structure of claim 36, wherein a barrier layer is interposed between the patterned dielectric layer opening and: the lower, recessed copper structure; and the upper, planarized conductor film; the barrier layer being comprised of TaN; the patterned dielectric layer being comprised of silicon oxide; and the planarized conductor film being comprised of TaN.

42. (currently amended) The ~~method~~ planarized final copper structure of claim 36, wherein the patterned dielectric layer is comprised of a material selected from the group consisting of: silicon oxide; FSG, a spin-on dielectric material, Black DiamondTM and nanoporous silica; and the planarized conductor film is comprised of a material selected from the group consisting of: TaN; TiN; WN; TaN+Co; Ta, TiSiN and TaSiN.

43. (currently amended) The ~~method~~ planarized final copper structure of claim 36, wherein the patterned dielectric layer is comprised of silicon oxide; and the planarized conductor film is comprised of TaN.

44. (currently amended) The ~~method~~ planarized final copper structure of claim 36, wherein the lower, recessed copper structure is recessed from about 250 to 350 Å below the upper surface of the patterned dielectric layer.

45. (currently amended) The ~~method~~ planarized final copper structure of claim 36, wherein the lower, recessed copper structure is recessed about 300 Å below the upper surface of the patterned dielectric layer.

46. (currently amended) The ~~method~~ planarized final copper structure of claim 36, wherein the opening is a dual damascene opening or a damascene opening.

47-62 (canceled).